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Field Crops
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Varietal Description of James Dahurian Wild-Rye

Origin and breeding

James Dahurian wild-rye was developed at the Agriculture Canada Research Station, Swift Current, Saskatchewan from a Chinese introduction designated Sc1732. Selections from Sc1732 were progeny tested in a spaced plant nursery. A single line, tested as ScD27620, was selected for high dry matter yield, high seed yield, persistence and erect growth type.

Varietal characteristics

Leaves: wide; carried high on culm

Culm: 100-150 cm

Heads: 13-15 cm

Seed: longer and wider than that of Russian wild-rye

Regrowth after cutting: rapid

Performance

James has acceptable forage and good seed yield but is slightly less persistent than Arthur.

Maintenance of breeder seed

Agriculture Canada Research Station, Swift Current, Saskatchewan

Seed multiplication

Limited to two generations from Breeder seed, one each of Foundation and Certified. When breeder seed is sown, three years of Foundation seed will be allowed. When foundation seed is sown, three years of certified production will be allowed.

Canadian distributor

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Recommended by

Alberta Forage Advisory Committee

Table 1. Seed yield (g/row) of James and Arthur Dahurian Wild-rye, Swift Current, seeded 1976

	1977	1978	Mean
James	2273	970	1622
Arthur	1647	1163	1405

Table 2. Forage yield (kg D.M /ha) of James Dahurian wild-rye and check varieties, Swift Current, seeded 1978

	1978	1979			1980			1981			
Variety		Cut 1	Cut 2	Total	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total	Mean
James	1329	3716	577	4296	571	494	1065	501	345	846	1884
Arthur	1368	3557	542	4106	587	500	1087	508	310	819	1845
Summit*	481	4620	291	4910	1221	294	1515	1678	104	1782	2172
Chief**	278	3381	292	3672	783	291	1074	1484	208	1691	1679

*crested wheatgrass
**intermediate wheatgrass

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Table 3. Yield performance (kg D.M./ha) of James Dahurian wild-rye and check varieties, Uniform Variety Trials, Seeded 1985

	Ft. Verm.			Leth.		Melfort		Saskatoon		Swift Current Dryland		Swift Current Irrigation			Overall Mean
Variety	1985	1986	1987	1986	1987	1986	1987	1986	1987	1986	1987	1985	1986	1987	14 stn.yr
Prairieland*	1175	4195	4268	4623	7220	5130	5096	6227	2744	1018	2542	1203	7484	6810	4267
James	2194	3232	3374	6889	4705	9950	5178	11301	3301	2651	504	2304	10003	5270	5061
Arthur	2204	2811	3193	6367	4990	9468	5153	9779	3162	2425	357	2393	9367	6472	4867

*Altai wild-rye

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Table 4. Seed yield (kg/ha) of James and Arthur, Swift Current, Seeded 1982

	1983	1984	Mean
James	1094	45	570
Arthur	1190	193	692

Table 5. Seed yield (kg/ha) of James and Arthur Dahurian wild-rye, seeded 1985

	Ft. Vermilion	Lethbridge	Swift Current			Mean	
			Dryland	Irrigation		1985	1986
Variety	1985	1986	1986	1985	1986		
James	38	492	778	954	982	496	750
Arthur	26	346	463	408	754	217	521

Table 6. Forage yield (kg D.M./ha) of James and Arthur Dahurian wild-rye, Swift Current, Seeded 1982

	1983			1984			Mean		
Variety	Pasture[1]	Hay[2]	Mature[3]	Pasture	Hay	Mature	Pasture	Hay	Mature
James	2991	3765	5054	878	1421	607	1934	2593	2380
Arthur	2954	3624	5106	748	1464	997	1751	2544	3052

Table 7. 1983 and 1984 mean of nutrient content of James and Arthur Dahurian wild-rye, Swift current, Seeded 1982

	% Nitrogen			% Crude Protein			% Phosphorus		
Variety	Pasture	Hay	Mature	Pasture	Hay	Mature	Pasture	Hay	Mature
James	2.19	2.04	1.36	13.7	12.6	8.5	0.16	0.15	0.08
Arthur	2.22	2.08	1.22	13.9	12.7	7.7	0.17	0.16	0.07

Table 8. Forage quality of James and Arthur Dahurian wild-rye, Swift Current, Seeded 1982, 1983-84 means

	% Organic Matter			% Digestible Organic Matter			Digestible Organic Matter (kg/ha)		
Variety	Pasture	Hay	Mature	Pasture	Hay	Mature	Pasture	Hay	Mature
James	88.9	89.9	92.6	66.1	62.6	52.2	1164	1473	1364
Arthur	87.3	90.9	92.9	66.5	63.6	51.2	1022	1480	1456

[1]Simulated pasture cut 2 or 3 times per year
[2]Hay cut 1 or 2 times per year
[3]Cut when seed was mature